

AMENDMENTS TO THE SPECIFICATION

On page 1, please amend the paragraph immediately following the heading "CROSS REFERENCE TO RELATED APPLICATION" as follows:

This application claims the benefit of U.S. Provisional ~~is a continuation in part of U.S. Patent~~ Application Serial No. 60/208,073, filed May 4, 2000, which is hereby incorporated by reference in its entirety for all purposes.

On page 1, please amend the paragraph beginning at line 13 (and continuing on to page 2) as follows:

Microarrays of various types have been employed for measuring the expression levels of large numbers of genes. One type of microarray is the oligonucleotide microarray, one example of which is the Gene Chip® microarray manufactured by Affymetrix corporation of California. International Patent Application ~~PCT/US96/14389~~, PCT/US96/14839, which is incorporated herein in its entirety, describes a method for measuring gene expression levels using oligonucleotide microarrays. In the method described, a nucleic acid sample is hybridized to a high density array of oligonucleotide probes immobilized to a surface, where the high density array contains oligonucleotide-type probes complementary to sequences of the target nucleic acids in the nucleic acid sample. For example, RNA transcripts of one or more target genes may be hybridized to an array of oligonucleotide probes immobilized on a surface such as that of a semiconductor chip. Some of the probes on the surface have sequences that are perfectly complementary to particular target sequences and are referred to herein as perfect match (PM) probes. Also present on the chip are probes whose sequence is deliberately selected not to be perfectly complementary to a target sequence. Such probes are referred to as mismatched (MM) control probes, where for each PM probe, there is a MM control probe for the same particular target sequence. This mismatch may comprise one or more bases. Thus, the biological sample such as a mRNA sample can be analyzed for gene expression for hybridization to above-described microarray on a chip. The presence of RNA sequences that bind to the oligonucleotide probes on the chips are then detected by methods such as tagging with a fluorescence material and then detecting the fluorescence. Since sequences that are different from the target sequences may also bind to the PM probes that correspond to such

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target sequences, the fluorescence signals from such sequences would appear as noise. Signal-to-noise ratio is improved by calculating the difference from signals from the sequences that bind to the PM probes and the signals from sequences that bind to the MM probes.

On page 10, please amend Equation (1) appearing at line 30,. as follows:

$$\cancel{d(i) = [\underline{x}_I(i) - \underline{x}_U(i)] / [\underline{x}(i) + s_0]} \quad \text{--- (1)}$$

$$\underline{\underline{d(i) = [\underline{x}_I(i) - \underline{x}_U(i)] / [s(i) + s_0]}} \quad \underline{\underline{\text{--- (1)}}$$